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ABSTRACT

Prospective students who received application materials for Carnegie-Mellon University (CMU), Pennsylvania, in 1976 and 1978 but did not apply for admission were surveyed to determine student background factors or attitudes that may have influenced their choice of colleges to which they applied. Findings include the following: nonapplicants applied to and planned to attend schools also liked by CMU admitted students; nonapplicants applied to about one fewer colleges than CMU admitted students; and nonapplicants had high Scholastic Aptitude Test scores like CMU admittees elsewhere. Nonapplicants may have opinions similar to admitted students about the strengths and weaknesses of an institution but may have different attitudes about the institution concerning distance from home, desirability of location, and cost. In general, the results have indicated that CMU has a competitive position with other major institutions. Based on the view that a variety of programs or policy changes will be required to increase the university's ratio of applicants from those who request application materials, interested prospective students can now receive an estimate of their net cost from CMU before they apply. Additionally, an experiment has been conducted to compare admissions results in areas where high schools are visited by CMU with similar areas where no visit occurs. (SW)

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WHY THEY DIDN'T APPLY

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25 June 1979

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ABSTRACT

Carnegie-Melon University (CMU) has studied in each of the last six years the schools that it competes with to enroll its admitted students. In 1976 and 1978, CMU also surveyed students who had received application materials but who had not applied. The surveys were designed to identify student background factors or attitudes which may have influenced their choices of the colleges to which they applied. Non-applicants were found to have: applied to and planned on attending schools which admitted students also liked, applied to about one fewer colleges than CMU's admitted students had, and had high SAT scores like CMU admittees who enroll elsewhere. Non-applicants may have opinions similar to admitted students about the strengths and weaknesses of an institution but may have different attitudes about the institution concerning distance from home, desirability of location and cost.

Why They Didn't Apply

Introduction

Every year thousands of college-bound high school seniors attempt to make inquiries of several colleges, apply to institutions of their choice, gain admission to some and finally decide to attend one. CMU records more than 25,000 inquiries every year and about 4,000 of the inquirers apply. Questions always arise about the non-applicants as to "Why they didn't apply", whether they differed from the applicants significantly in their academic performances, where they attended school and why they chose another school over CMU. In order to get answers to these questions, two studies were conducted by CMU in 1976 and in 1978. The findings and conclusions of these studies follow.

CMU Admissions Profile

CMU admits 60% of its applicants and enrolls 46% of its admittees. Table 1 compares three years in inquiries, applications, admissions and enrollment.

Table 1

CMU Admissions Profile

	Inquiries	Applicants	Admitted	Enrolled
1976	21,647	4,296	2,526	1,250
1977	27,168	4,930	2,646	1,138
1978	26,088	3,802	2,434	1,172

Inquiries have increased by more than 4,000 in 2 years; but the number of applications went down and this was one of the reasons for the second study of non-application. In 1976, 50% of the admitted students enrolled; in 1977, 43%; and in 1978, 48% enrolled.

Methodology

In both studies, samples were drawn from all University non-applicants and a questionnaire was mailed to everybody in the sample. Questions were designed to explore the reasons that influenced the inquirer's decision not to apply. In the first part of the questionnaire, students were asked to state their college preferences and academic field of interest. Other questions explored whether their performance in high school and on the SATs, their sources of information or their perception of CMU could have discouraged them from applying. Also, in 1978, there was interest in finding out if the family contribution amount estimated by the College Scholarship Service was a major factor of influence. Finally, the inquirer was asked to compare CMU and the school he/she planned to attend on various factors in order to evaluate his/her perceptions of the two schools.

Sampling and Survey Response

In 1976, the sample was selected by random sampling. Samples were selected from 8 regions across the United States.* Sampling for the 1978 study was based on the regional response rates from the 1976 Non-applicant Study. Samples comprised about 20% of the inquiries both in 1976 and in 1978. The 15% response rate in 1978 was lower than the 21% achieved in the 1976 study. The lower response rate in the second study may partially be the result of a greater number of inquirers with low interest in CMU who would be unlikely to respond to a survey. 92% of the respondents were planning on entering college in 1976 and 94% had such plans in 1978. The study results were based on 791 responses in 1976 and 780 in 1978.

*Appendix A shows the region definitions.

Responses from the 780 inquirers who would be attending college in 78-79 were selected for further analysis. Since the response rates varied by region, any question which people from different regions tended to answer differently would be biased by the response rates from particular regions. Therefore, in analyzing the survey results, the responses from each region were weighted to adjust them to a uniform response rate. All tables in this report are based on weighted responses. See Appendix B for the specific weights used for 1978. 1976 responses were also weighted by region.

Major Reasons for Not Applying

The following reasons in Table 2 appeared to account for most decisions not to apply.

Table 2

Reasons for not Applying

Distance from home

Cost/Financial Aid

Location

Program Offerings

CMU Facilities

One out of five non-applicants reported distance from home as a reason for not applying. It is important to note, however, that it is perceived distance from home that matters, rather than actual distance from home. For example, some people from California chose to enroll at CMU while some people in Pennsylvania won't apply because Pittsburgh is "too far" from their home.

One out of five non-applicants felt that the cost of CMU was a major reason for not applying. For about half of these people, financial aid was a consideration. The estimated parental contri-

bution, included in CEEB's Report to Filer for the first time in 1978, discouraged about 10% of University non-applicants or about one out of four who received a Report to Filer.

Nineteen percent of non-applicants reported that CMU's location was a reason for not applying. While many people stated a preference for another area of the country, others wanted a rural setting or had a specific dislike of Pittsburgh.

About ten percent of non-applicants reported that CMU did not offer the academic program they wanted. Popular fields not available at CMU were computer science and dramatic literature. Also, ten percent of non-applicants felt that CMU was too technically oriented or too narrowly structured.

CMU facilities appear to be a weakness. Looking at non-applicants who visited the University compared to those who did not, the visitors had more positive attitudes about factors like CMU's general reputation or teaching reputation but had less positive attitudes about campus facilities.

Student Quality

It is of interest to compare the student quality profiles of the non-applicants and applicants. Both in 1976 and 1978 studies they were asked to state their high school ranks and SAT scores.

Responses for high school ranks are given in Table 3.

Table 3

High School Rank
Non-applicant Profiles

1978		1976	
Top 10%	64%	Top 10%	65%
Top 25	21	Top 20	22
Top 33	7	-	-
Top 50	4	Top 50	9
Lower 50	1	Lower 50	1
No Response	3	No Response	3

The fact that more than 60% of the inquirers were at the top 10% of the graduating class in high school is at least partially the result of CMU using high school rank as a selector for its college board search of potential applicants.

The SAT scores for applicants and non-applicants are compared in Table 4.

Table 4

SAT Score Comparisons
Applicants and Non-Applicants

Verbal SAT Scores

	Non-applicants		Admittees Who Enrolled Elsewhere		Enrolled at CMU	
	1976	1978	1976	1978	1976	1978
200-450	4%	7%	9%	10%	9%	10%
451-550	27	25	32	35	32	35
551-650	44	39	42	38	42	38
651-800	20	25	16	17	16	17
No Response	5	4				

Table 4
(Continued)

Math SAT Scores	Non-applicants		Admittees Who Enrolled Elsewhere		Enrolled at CMU	
	1976	1978	1976	1978	1976	1978
200-450	3%	5%	4%	3%	4%	3%
451-600	37	28	26	30	26	30
601-700	34	39	41	41	41	41
701-800	21	24	29	26	29	26
No Response	5	4				

The SAT scores of non-applicants are similar to those of CMU admittees who enroll elsewhere.

According to the self reported ranks and scores, more than 60% of the non-applicants have excellent high school records and SAT scores.

Applications and Attendance: Other Institutions

One of the subjects of interest was in finding where the non-applicants went to college. With respect to this, the following two questions were asked both in the 1976 and 1978 studies.

"Where are you planning to attend college next fall?"

"List all the schools to which you applied."

Every year the CMU Planning Office conducts "The Competition Study", a study of enrollment of its admitted students, to identify its position among the competitiors and also to find out the reasons why CMU or another school was preferred. The popular schools among CMU's applicants from the results of the Competition Study, were also found to be popular among non-applicants. Listed in Table 5 are the 10 most popular schools in 1978 with their ranks in 1976 compared to the top competitors of CMU.

TABLE 5

Popular Schools Among Non-Applicants and Applicants

Non-Applicants					Applicants	
Schools Planning to Attend	Rank in '78	Rank in '76	Schools Applied to	Rank in '78	Rank in '76	Schools with Largest No. of Joint Applications*	Schools with Largest No. of Joint Admits*
Penn State	1	1	Cornell	1	2	Cornell	Penn State
Cornell	2	23	Penn State	2	1	Penn State	RPI
Penn	3	4	Penn	3	4	RPI	U. of Pittsbur
Pitt	4	1	Princeton	4	6	MIT	Cornell
U. of Virginia	5	5	MIT	5	12	U. of Penna.	Syracuse
Indiana U. of Penna.	6	11	Northwestern	6	12	U. of Pittsburgh	Lehigh
MIT	7	6	RPI	7	3	Princeton	Case Western
RPI	8	13	Harvard	8	16	Syracuse	U. of Penna.
Yale	9	23	Pitt	9	5	Lehigh	U. of Rochester
Northwestern	10	9	Yale	10	8	Case Western	Boston

* Based on 1973-1977 Competition Studies

Many of the non-applicants are applying to and attending high quality schools. An interesting pattern observed was the attendance of non-applicants at public or private schools. In 1978, 46% of the non-applicants, attending one of the ten most popular schools of non-applicants, were going to a public institution. In comparison, only 16% of CMU admitted applicants in 1977 were attending a public institution among the ten most popular schools. The data show that many non-applicants are only applying to public institutions and not applying to private institutions.

Further Details on Applications

Colleges applied to were looked at by region with the data shown in Table 6.

Table 6

Intraregion College Application Rates

Regions	Applied to Colleges Within Region
Pennsylvania	72%
Ohio	58
New York	51
New Jersey	18
North Central	30
New England	65
South	63
West & Midwest	75

Large percentage of students preferred to apply to colleges within their regions, except New Jersey and North Central states residents. 61% of the non-applicants from New Jersey and 43% from North Central states were applying to colleges in New York, Pennsylvania and Southern states.

The non-applicants were asked the number of colleges they requested information from. Table 7 shows this data.

Table 7

Number of Colleges Information Requested of

# of Colleges	1978	1976
1 - 5	25%	21%
6 - 10	28	29
11 - 15	21	22
16 or more	25	27
No Response	-	1

For the non-applicants, number of colleges applied to varied from that of CMU's applicants. In 1976, non-applicants applied to 3.0 colleges on an average, while in 1978 they applied to 3.3 colleges. In the "Competition Study" the applicants had applied to 4.2 colleges in 1976 and 4.4 colleges in 1977. Non-applicants are being more selective about the number of colleges they are applying to.

Academic Program Availability

One of the interests concerning non-applicants is the availability of their chosen field of study as an undergraduate major at CMU. Two questions were asked to check both the actual availability and the perceived availability.

"What academic field do you plan to study?"

"As far as you know, does CMU offer a similar program in the area you will be studying?"

The first question was asked in both 1976 and 1978, the second only in 1978. (In 1976 a true/false question was asked, "CMU does not offer the kind of academic program I am seeking.") Seventeen percent of the non applicants were interested in one of six popular

fields of study not offered as a major at CMU. An interesting finding came from reviewing the results of the second question, above, for only those students who were planning on studying a field available as a CMU major. Table 8 shows this information.

Table 8

Knowledge of Program Availability

Does CMU offer a similar program?	%
Yes	64
No	12
Don't Know/No Response	24

These responses show that almost one-quarter of this group either did not know or did not think that their field was available at CMU.

Source of Information About CMU

Another question of interest is how people who requested application materials learned about the University. The following question was asked in both 1976 and 1978.

"How did you learn about CMU?"

Non-applicants were given a list of sources of information to check. Table 9 shows the responses to this question.

Table 9

Sources of Information

Sources	1978	1976
College Board Search	47%	54%
Friends	30	39
College Handbook	21	32
Relatives	17	21
Admissions Office "programs"	16	18
High School Counsellor	15	23
Media	12	14
High School Teacher	6	10

CMU uses a College Board Search to identify potential applicants. Table 10 shows the differences in sources of information for CEEB Search and other non-applicants in 1978.

Table 10

Sources of Information for CEEB Search and Other Non-Applicants

Source	CEEB Search	All Other
Friends	20%	39%
College Handbook	16%	25%
Relatives	9%	23%
Admissions Programs	14%	18%
High School Counselor	10%	19%
Media	8%	16%
High School Teacher	3%	8%

This table showed that CEEB Search potential applicants were less likely to have heard about CMU from every other source of information. So it is important to use the CEEB Search to identify prospective applicants but it places a greater burden on Admissions publications to interest them in the University.

Campus Visits

Also of interest is whether non-applicants had ever visited the CMU campus. The following question was asked in 1978 with the response listed in Table 11.

"Did you visit the CMU campus before deciding not to apply?"

Table 11

Campus Visited

Yes	13%
No	86%
No Response	1%

From this question and the one previously cited about sources of information, it can be seen that CMU has contact with a majority of potential applicants through written media rather than personal contact.

As the Admissions Office has worked to increase the number of applicants to the University, there has been some anecdotal feedback especially from high school guidance counsellors that CMU is harder to be admitted to. The following question was asked in 1978 with the response shown in Table 12:

"It is harder to gain admission to CMU now than it was several years ago."

Table 12

Change in Perceived Difficulty to Gain Admission

Agree	39%
Disagree	31%
No Response	30%

Although over a third of non-applicants felt it is harder to gain admission, only 12% reported that this has some influence on their decision not to apply and 4% said that it had a strong influence on their decision.

In 1978 for the first time, the College Scholarship Service (CSS) sent a Report to Filer for those filing Financial Aid Forms with the CSS. The Report to Filer estimated a family contribution for prospective college students based on some of the information supplied on the Financial Aid Form. Slightly over half of CMU non-applicants had filed a Financial Aid Form. Almost two-thirds of those filing, filed forms in January or February of 1978. Over 40 percent of the non-applicants, or about 80 percent of those filing forms, reported receiving a Report to Filer from the College Scholarship Service. 10 percent of the non-applicants, or about one-fourth

of those receiving the Report to Filer, reported that the estimated family contribution amount on the Report to Filer discouraged them from applying to CMU. This last response was especially useful as it estimated the impact of the Report to Filer on CMU's application decline in 1978.

An important question is the extent to which reasons for not applying are interrelated. Since the reaction to the estimated parental contribution on the Report to Filer was a major concern, Table 13 was developed.

Table 13

Report to Filer Discouraged,
Given Other Non-Applicant Reasons

Overall:

Report to Filer Discouraged 2,340* (11% of all non-applicants)

Eliminating: Distance from home
Geographical/Rural Preference

Report to Filer Discouraged 1,770 (76% of all discouraged)

Further Eliminating: Narrowly Structured
Program not Offered
CMU Lower Quality

Report to Filer Discouraged

1,570 (65% of all discouraged)

* Estimated for entire non-applicant population.

The above table shows two important facts. First, there are interrelationships among reasons for not applying. About one-third of the people who were discouraged by the Report to Filer also cited other important reasons for not applying. Second, conversely, about two-thirds of those discouraged by the Report to Filer did not appear to have another major reason for not applying.

It should be mentioned that the CMU 1978 Non-applicant Study offered one opportunity which was not used to get information on a policy question. In 1978, applicants were required to complete an essay as part of the application. This was a new requirement. Since the non-applicant study was mailed, a decision was made to drop the essay from the application. In retrospect, it would have been useful to ask non-applicants if the essay had discouraged them from applying.

Summary

Surveys sent to a sample of non-applicants in 1976 and 1978 have provided useful information about important policy questions. In general, the results have shown a competitive position with other major institutions. The results also show that there are a variety of reasons for students not applying to CMU. The main reasons cited by students were distance from home, cost of CMU and the University's location. It will therefore require a variety of programs or policy changes to increase the University's ratio of applicants from those who request application materials.

The University has already taken steps to use some of the information provided by the surveys. Interested prospective students can receive an estimate of their "net cost" from CMU before they apply. And an experiment has been conducted to compare admissions results in areas where high schools are visited by CMU with similar areas where no visits occur.

APPENDIX A

States or Areas in Respondent Regions
(1978 Region Definitions)

Region #	Region	States or Areas
1	Pennsylvania	Pennsylvania
2	Ohio	Ohio
3	New York	New York
4	New Jersey	New Jersey
5	East Central	D.C., Delaware, Maryland, W. Va.
6	New England	Connecticut, Maine, Massachusetts New Hampshire, Rhode Island, Vermont
7	South	Alabama, Arkansas, Florida, Georgia Kentucky, Louisiana, Mississippi, North Carolina, South Carolina. Tennessee, Virginia
8	Midwest & West & Other	Alaska, Arizona, California, Colorado, Guam, Hawaii, Iowa, Idaho, Indiana Kansas, Michigan, Minnesota, Montana Missouri, North Dakota, Nevada, New Mexico, Oklahoma, Oregon, Puerto Rico South Dakota, Texas, Utah, Virgin Islands, Washington, Wisconsin, Wyoming

APPENDIX B

DESCRIPTION OF SAMPLE WEIGHTING

Table 14 shows the number of non-applicants by region in 1978. Also shown is the percentage of college-bound, non-applicants, based on the survey returns. The number of total college-bound, non-applicants is estimated in the next column. The following column shows the number of responses actually received from college-bound non-applicants. The next column shows 10% of the college-bound non-applicants in the region. This is the arbitrary hypothetical number that the responses could have achieved, had there been a higher response rate, uniform across regions. The final column shows the weights used which is the desired response by region divided by the actual response by region.

Table 14

Sample Weighting by Region

Region	# of Non-Appli.	% of Responses College-bound	Estimated College-bound Non-Applicants	# of Responses College-bound	10% Sample	Weights
Penna.	5,741	91.2	5,236	115	524	4.56
Ohio	1,524	94.9	1,446	75	145	1.93
New York	4,990	95.4	4,760	84	476	5.67
New Jersey	1,776	94.6	1,680	106	168	1.58
East Central	1,652	94.6	1,563	53	156	2.94
New England	2,402	95.1	2,284	99	228	2.30
South	1,609	93.8	1,509	106	151	1.42
Midwest & West	2,758	95.3	2,628	142	263	1.85
TOTAL	22,452	94.1	21,106	780	2,111	2.71